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Characterization of the Sub-layers for 2-block H_∞ -optimal Control Problem

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Abstract

An analysis of the sub-layers for the 2-block H_∞ -optimal control problem is made in this paper. The sub-layers are characterized by a 2-block H_∞ control problem through the concept of the diagonalizing matrix pair. This matrix pair is constructed from the modified 1-block H_∞ -optimal control problem and its maximal Schmidt pair. The optimal H_∞ -norm of the sub-layers which can possibly be attained is independent of any different optimal solution.

Key words : 2-block H_∞ -optimal control problem; All-pass function;
Diagonalizing matrix pair; Inner extension; Maximal Schmidt pair